



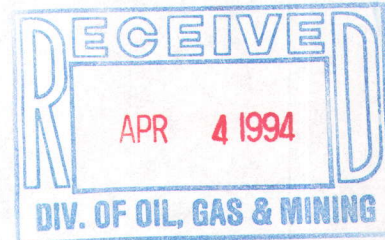
State of Utah

DEPARTMENT OF ENVIRONMENTAL QUALITY DIVISION OF WATER QUALITY

M/035/002

Michael O. Leavitt
Governor
Dianne R. Nielson, Ph.D.
Executive Director
Don A. Ostler, P.E.
Director

288 North 1460 West
P.O. Box 144870
Salt Lake City, Utah 84114-4870
(801) 538-6146
(801) 538-6016 Fax
(801) 536-4414 T.D.D.



March 31, 1994

Mr. Frederick D. Fox
Director, Environmental Affairs
Kennecott, Utah Copper
P.O. Box 525
Bingham Canyon, Utah 84006-0525

FWC
cc: ZPB
WH
4/4/94
orig. mine file

RE: Proposal for the Land Application of
Sludge for Magna Tailings Pond
Reclamation Demonstration Project

Dear Mr. Fox:

Thank you for Kennecott's proposal to use biosolids for a reclamation demonstration project on your tailings pond, dated March 2, 1994. The Division of Water Quality (DWQ) is certainly supportive of the beneficial use of a valuable by-product of wastewater treatment and other recyclables such as green-waste, as well as the improvement in water and air quality and the environment in general that can result from land reclamation.

We understand this project to involve a one-time application of sludge on the five test cells indicated in your proposal, (including any product containing sludge, such as compost) and ten years of monitoring. Any other use of sludge must be pre-approved in writing by DWQ.

This project is approved as outlined in your proposal, subject to the following conditions.

1. Before land application begins, please submit
 - a. biosolids analysis, on a dry-weight basis, for both the sludge and the sludge-compost, for the following parameters:
 1. three kinds of nitrogen: ammonia, nitrate + nitrite, and organic
 2. ten metals regulated by 503 for land application

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- b. the proposed total dry tonnage application rates for sludge and for compost
 - c. an example or explanation of your method of calculating agronomic rate
- 2. The land application shall comply with all applicable portions of 503, including the metals limits in Tables 1, 2 and/or 3, site restrictions and management requirements.
- 3. Report annually the monitoring (analysis) results for sludge, soil and ground water, any changes in practice from the proposed and approved plan, problems that arise and their solutions, the success of the project in achieving revegetation, cost savings compared to the alternatives, etc. Before and after pictures would also be very helpful in demonstrating the effects of this demonstration project. (This report could be a copy of your annual report to DOGM, as long as it contains this information.)
- 4. Evaluate the need for and implement appropriate erosion control, i.e., best management practices (such as contour plowing, vegetative cover downslope of the test cells, slope, straw bales, etc.)
- 5. This approval is subject to the requirement that any discharge shall not cause any ground water standards or class TDS limits to be exceeded.
- 6. When your proposal states that "no fertilizer" in addition to sludge will be used, we understand this to refer to nitrogen. The addition of other nutrients is allowed as needed, as determined by Kennecott. If other nutrients are used, simply include this information in your next report on this project.
- 7. Before land application begins, obtain one background deep soil analysis for nitrate + nitrite for each test cell. In each test cell, analyze composite samples taken at one-foot depth intervals to five feet deep. Each composite sample shall be composed of six grab samples of the same depth, taken at six different randomly chosen points within a test cell.

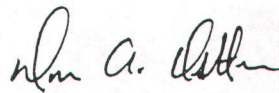
We have sent a copy of your proposal to Bob Brobst, EPA Region VIII, because it is required by 40 CFR 503 that EPA (the "permitting authority") approve any application rate that exceeds the agronomic rate. DWQ and EPA are working closely together in order to streamline the approval process and increase efficiency for all of us. Your sludge contact here at DWQ, Lisa Rogers, is coordinating with EPA for you. She has arranged for EPA approval to be expedited as soon as we receive the requested information from you.

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We expect this project will prove successful in demonstrating a beneficial use of sludge, which will enable you to meet your reclamation goals while reducing the financial and environmental costs of topsoiling and fertilizing. If you have any questions or we may be of further assistance, please call Lisa Rogers of my staff, at 538-6146.

Sincerely,

Utah Water Quality Board



Don A. Ostler, P.E.
Executive Secretary

DAO:lr:st

cc: James Carter, Director, Utah Division of Oil, Gas & Mining
Bob Brobst, EPA Region VIII
Melvin Muir, Salt Lake City/County Health Dept.
Kiran Bhayani, Manager, Design Evaluation Section, UDWQ
Larry Mize, Manager, Ground Water Protection section, UDWQ
Paul Krauth, DWQ

P+C:KENNECOTT.LTR
FILE:UPDES